IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1(Previously Presented). A method for gain control in a digital subscriber line system comprising an analog front end with a plurality of interleaved gain and filter stages, comprising the sequential acts of:

selecting an order for said gain stages to be considered;

initializing each of said plurality of gain stages to respective minimal gain setting, wherein each gain stage has a plurality of incremental gain settings; and

for a first iteration of each gain stage in said selected order:

increasing a corresponding gain setting by one increment;

determining a peak average of a plurality of data frames received by said analog front end for a present gain setting; and

if said peak average is greater than a peak target, reduce said gain setting by one increment and proceed to a next gain stage in said selected gain stage order;

otherwise increase said gain setting by one increment and return to said act of determining a current peak average.

2(Original). The method of Claim 1, wherein said selecting an order for said gain stages to be considered further comprises:

determining a loop type in said subscribers line system; and

selecting a gain stage order corresponding to said loop type.

3(Original). The method of Claim 1 further including resetting a gain stage counter to begin with a first gain stage in said selected.

4(Previously Presented). The method of Claim 1 further including waiting a time period for determining said peak average following a change in a gain setting.

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5(Previously Presented). The method of Claim 1, wherein said determining a peak average comprises:

determining a maximum peak for said plurality of data frames; and

applying a medium operator to said determined maximum peak for providing said peak average.

6(Previously Presented). The method of Claim 1 further including a second iteration of each gain stage in said selected order comprising the sequential acts of:

increasing a maximum gain setting; and

repeating said first iteration of each gain stage.

7(Original). The method of Claim 6, wherein said selecting an order further comprises:

determining a loop type in said subscribers line system; and

selecting a gain stage order corresponding to said loop type.

8(Original). The method of Claim 1 further including a plurality of subsequent iterations each comprising:

increasing said maximum gain setting; and

repeating said first iteration of each gain stage.

9(Previously Presented). The method of Claim 6 further including waiting a time period for determining said peak average following a change in a gain setting.

10(Previously Presented). The method of Claim 6, wherein said determining a peak average comprises:

determining a maximum peak for said plurality of data frames; and

applying a medium operator to said determined maximum peak for providing said peak average.

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11(Currently Amended). A method for selecting a gain distribution for a plurality of interleaved programmable gain amplifiers of an analog front end in a digital subscriber line system, comprising:

selecting a sequential order for which programmable gain amplifiers settings are determined;

initiating each of said programmable gain amplifier settings to a lowest setting, wherein each said programmable gain amplifier has a plurality of incremental gain settings which includes a maximum setting; and

for a first iteration beginning with a first of said selected sequential order and repeating for each programmable gain amplifier:

selecting a highest incremental gain setting which provides a nonsaturated signal condition, wherein said signal condition is determined by a peak average for a plurality of data frames received by said analog front end.

12. Canceled.

13(Original). The method of Claim 11, wherein said selecting a sequential order further comprises:

determining a loop type in said digital subscriber line system; and

selecting a predetermined sequential order corresponding to said loop type.

14(Original). The method of Claim 11 further including a second iteration beginning with a first of said selected sequential order and repeating for each programmable amplifier:

increasing said maximum setting by at least one incremental setting; and

selecting a highest incremental gain setting which provides a nonsaturated signal condition.

15(Original). The method of Claim 14, wherein said signal condition is determined by a peak average for a plurality of data framing received by said analog front end.

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16(Original). The method of Claim 14, wherein said selecting a sequential order further comprises:

determining a loop type in said digital subscriber line system; and

selecting a predetermined sequential order corresponding to said loop type.

17(Original). The method of Claim 11 further including a plurality of subsequent iterations each comprising:

increasing said maximum setting by at least one incremental setting; and

repeating said first iteration.

18(Currently Amended). An apparatus for selecting a gain distribution in a subscriber line system, comprising:

an analog front end having a plurality of serially coupled gain stages and adapted to receive a data signal;

an analog-to-digital converter adapted to receive a data signal from said analog front end; and

a processor coupled to said analog-to-digital converter and adapted to select a gain setting of each of said gain stages in a predetermined order, said processor further adapted to execute instructions for selecting a highest incremental gain setting which provides a nonsaturated signal condition based on a peak average for a plurality of data frames received by said analog front end.

19(Original). The apparatus of Claim 18, wherein said gain stages comprise programmable gain amplifiers.

20(Original). The apparatus of Claim 18, wherein said processor comprises a digital signal processor.

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